

### **REMARKS**

Applicants respectfully request reconsideration of the application, as amended, in view of the following remarks.

The present invention as set forth in **amended Claim 1** relates to a proton exchange fuel cell, comprising:

a separator which comprises

a separator substrate; and

a multi-coating layer formed on said separator substrate;

**wherein said multi-coating layer comprises a peeling resistance layer provided on said separator substrate, a corrosion resistance layer provided on said peeling resistance layer, and a low electric resistance layer provided on said corrosion resistance layer;**

wherein a material of said low electric resistance layer has an electric resistance of equal to or lower than  $1000 \mu \Omega \text{cm}^2$ ;

wherein said separator substrate comprises one kind or a composite material of two or more kinds of materials selected from the group consisting of stainless steel, copper, an alloy of copper, aluminum, an alloy of aluminum, titanium and an alloy of titanium;

wherein said multi-coating layer comprises one kind or a composite material of two or more kinds of materials having a low contact resistance selected from the group consisting of Ni, Fe, Co, B, Pb, Cr, Cu, Ti, Bi, Sn, W, P, Mo, Ag, Pt, Au, TiC, NbC, TiCN, TiN, CrN,  $\text{TiB}_2$ ,  $\text{ZrB}_2$ ,  $\text{Fe}_2\text{B}$ , and  $\text{Si}_3\text{N}_4$ .

In addition, **new Claim 18** has been added which relates to the proton exchange fuel cell according to Claim 1, wherein **a crystal orientation of each layer of said multi-coating layer is oriented to a direction of a Miller index of (200) or (002).**

In contrast, Li et al (US 5,624,769) fail to disclose or suggest **a peeling resistance layer provided on said separator substrate, a corrosion resistance layer provided on said peeling resistance layer, and a low electric resistance layer provided on said corrosion resistance layer** as claimed in Claim 1 of the present invention.

The reference also fails to disclose or suggest that **a crystal orientation of each layer of said multi-coating layer is oriented to a direction of a Miller index of (200) or (002)** as claimed in new Claim 18.

Li et al (U.S. Pat. 5,624,769) disclose a PEM fuel cell having electrical contact elements (including bipolar plates/septums) (Li et al, abstract). It comprises a titanium nitride coated light weight metal (e.g., Al or Ti) core 50, having a passivating, protective metal layer 52 intermediate the core 50 and the titanium nitride layer 54 (Li et al, Fig. 2).

The protective layer 52 forms a barrier to further oxidation/corrosion when exposed to the fuel cell's operating environment. Stainless steels rich in Cr, Ni and Mo are particularly effective protective inter-layers 52. However, **there is no disclosure of the specific layer sequence as claimed.** Li et al has only two layers: a barrier/protective layer 52 and top coat of TiN 54.

In addition, the claimed **crystal orientation of the coating layer** is not disclosed or suggested.

Therefore, the rejection of Claims 1-5 and 17 under 35 U.S.C. §102(b) as anticipated by Li et al (US 5,624,769) and the rejection of Claim 16 under 35 U.S.C. §102(b) as anticipated by, or in the alternative under §103(a) as obvious over Li et al (US 5,624,769) are believed to be unsustainable as the present invention is neither anticipated nor obvious and withdrawal of these rejections is respectfully requested.

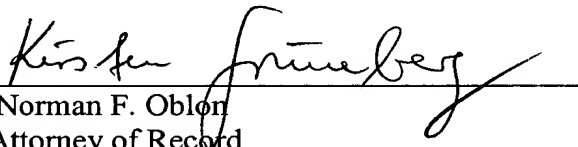
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In addition, Applicants wish to note that MPEP §821.04 states, "if applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims which depend from or otherwise include all the limitations of the allowable product claim will be rejoined." Applicants respectfully submit that should the elected group be found allowable, the non-elected claims 6-15 should be rejoined.

Applicants submit that the present application is now in condition for allowance and early notice of such action is earnestly solicited.

Respectfully submitted,

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